

Eucalyptus erosa A.R.Bean (Myrtaceae), a new stringybark species from central Queensland

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Summary

Bean, A.R. (2005). *Eucalyptus erosa* A.R.Bean (Myrtaceae), a new Stringybark species from central Queensland. *Austrobaileya* 7(1): 141–144. *Eucalyptus erosa*, a new species of the stringybark group (*E. ser. Pachyphloius* Blakely) is described, illustrated and diagnosed against closely related species.

Key Words: Myrtaceae, stringybark, eucalypt taxonomy, *Eucalyptus erosa*, Queensland flora.

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Introduction

Eucalyptus series *Pachyphloius* Blakely comprises taxa commonly known as the ‘true stringybarks’ (Ladiges and Humphries 1986). They are characterised by the thick longitudinally fibrous bark persistent throughout the trunk and most or all branches, and the seedlings with emergent oil glands bearing numerous radiating hairs, in appearance like stellate hairs. Frequently they exhibit sessile buds and fruits, and oblique adult leaf bases. Chippendale (1988) enumerated 21 species for the group while Brooker (2000) listed 28 species. The majority of these species occur in eastern New South Wales and eastern Victoria, but several species extend to Queensland, mostly in higher altitude areas along the southern parts of the Great Dividing Range in the south-east.

On the high ranges and plateaux between Injune and Springsure, including the Consuelo Tableland, two species of *E. series Pachyphloius* are indigenous. One is *E. laevopinea* R.T.Baker, which also grows widely on the New England Tableland much further south. On the Consuelo Tableland, it forms a superb tall forest, “the best natural stringybark forest in existence” (I. Brooker pers. comm.). The second species (described here) is most closely related to *E. mackieana*. It grows on deep sandy soils derived from the weathering of quartzose sandstone rock, and is also a tree of impressive proportions.

Taxonomy

***Eucalyptus erosa* A.R.Bean sp. nov.** affinis *E. mackieanae* sed plantulae foliis latoribus densius hirsutis, pedicellis longioribus, fructus disco plano et cotyledonibus latoribus differens. **Typus:** Queensland. MARANO DISTRICT: 13 km N of Mt Moffatt Homestead, on road to Consuelo Tableland, 27 April 1981, *D.F. Blaxell 1883 & L.A.S. Johnson* (holo: BRI; iso: CANB, MEL, NSW).

Eucalyptus sp. (Carnarvon Range) in Ladiges & Humphries (1986), Neish *et al.* (1995)

Eucalyptus sp. (Mt Moffatt HS D.F. Blaxell+ 1883) in Bean *et al.* (2002)

Well-formed tree to 30 metres high, lignotuberous, trunk straight. Bark persistent except on small branches, coarsely fibrous to stringy, grey on outside, brown underneath. Juvenile leaves sub-opposite to alternate, lanceolate to narrowly-ovate, 5–7 × 1.5–2 cm, strongly discoloured, apex acute, base cuneate to obtuse, margins minutely denticulate, petioles 0.2–0.3 cm long; stems, petioles and leaves covered with clusters of simple radiating hairs, in appearance like stellate hairs, each cluster 0.3–0.5 mm diameter. Intermediate leaves broadly lanceolate, 7.5–9.5 × 2.5–3.5 cm, glabrous, slightly discoloured, apex apiculate, base oblique. Adult leaves falcate or lanceolate, 7–14 × 1.1–2.3 cm, alternate, concolorous, penninerved, lateral veins at 30–45° to the

midrib; reticulation very sparse, with numerous large island oil glands, several per areole; intramarginal vein present, 0.5–1.3 mm from the margin; apex acute, mucronate or uncinata, base cuneate to oblique, margins erose due to marginal glands (4–9 on each side of lamina); petioles 10–16 mm long. Inflorescences axillary, unbranched, 9–11(–13) flowered umbellasters; peduncles angular to flattened, 7–14 mm long; pedicels 2–4.5 mm long; immature buds ellipsoidal; mature buds obovoid, 5.5–7 mm long, 3.5–4 mm in diameter, smooth and without ridges. Hypanthium obconical, 3.5–4 mm long; operculum conical to apiculate, 2–4 mm long, scar absent; stamens white, irregularly flexed, all fertile. Anthers reniform to cordate, versatile, anther slits confluent. Style terete, stigma blunt or tapered. Ovary 3–4-locular, ovules in 2 vertical rows. Fruits cupular to hemispherical, 4–6 mm long, 6–7.5 mm in diameter, disc flat, 0.8–1.4 mm wide, valves 3–4, at rim level, pedicels 2.5–5 mm long. Seeds pyramidal to D-shaped, 1.6–2.0 mm long, not toothed, dark brown, surface faintly reticulate, hilum terminal. Chaff similar in size and shape, but paler. **Fig. 1.**

Additional specimens examined: Queensland. MARANOVA DISTRICT: 146 km NW of Injune on road to Consuelo Tableland, Sep 1977, *Blaxell 1529 & Armstrong* (BRI, NSW); 155 km NW of Injune on road to Consuelo Tableland, Sep 1977, *Blaxell 1524 & Armstrong* (BRI, NSW); between Warrong and Mt Moffatt, NW of Injune, Apr 1975, *Brooker B4867, B4868* (BRI, CANB); Great Dividing Range, c. 80 km SW of Rolleston, Kenniff Caves, Jun 1977, *Crisp 3068* (BRI, CANB, NSW); 6 km W of Mt Moffatt HS, May 1982, *Neldner & Thomas 749* (BRI). WARREGO DISTRICT: c. 0.5 km N of Pumphole Spring, Dooloogarah Creek, Feb 1977, *Martensz 1148, 1149 & Johnston* (BRI, CANB).

Distribution and habitat: *Eucalyptus erosa* is confined to the Mt Moffatt section of Carnarvon National Park, north-west of Injune, and the adjacent grazing property “Dooloogarah”. It grows on coarse sandy colluvials derived from outcropping quartzose sandstone, at altitudes of 700–900 metres. It occurs in association with *Angophora leiocarpa* (G.J. Leach) K.R. Thiele & Ladiges, *Eucalyptus grisea* L.A.S. Johnson & K.D. Hill and *Callitris glaucophylla* Joy Thomps. & L.A.S. Johnson.

Phenology: Flowers have been recorded for May. Fruits may be found throughout the year.

Notes: The most remarkable feature of *E. erosa* is the consistent and conspicuous presence of marginal glands on the adult leaves. On the newly emerging leaves (new growth), they are readily observed as pustular glands crowded towards the distal end of the leaf (**Fig. 1d**). On fully grown leaves, they are more or less evenly distributed along the margins (**Fig. 1c**). By this stage, the glands have usually erupted from the surface along the margin, leaving a slightly sunken, elliptical structure, that is then more appropriately called a leaf-margin lenticel (Neish *et al.* 1995). In this species and a few others (e.g. *E. denticulata*), the leaf-margin lenticels are associated with irregularities in the leaf margin that are conspicuous to the naked eye. In other species, the leaf margin irregularities are much more subtle.

“Irregular leaf margins” was one of the characters used by Ladiges & Humphries (1986) in their cladistic analysis of the stringybark group. They noted its presence in *E. erosa* (as *E. sp.* Carnarvon Range), but not for any other member of the Stringybark group. Neish *et al.* (1995) documented the occurrence of this character in five species of *Eucalyptus*, including one additional species of stringybark, *E. laevopinea*. However, this character is much more widespread in the genus than has yet been reported (Bean, unpubl. obs.).

E. erosa differs from the closely related *E. mackieana* by its juvenile leaves 1.5–2 cm wide (0.5–1 cm wide for *E. mackieana*), the seedling leaves with more than 30 hair clusters per square centimetre (vs. <12 for *E. mackieana*), the pedicels 2.5–5 mm long in fruit (1–2.5 mm long in *E. mackieana*), and fruits with a flat disc (convex disc in *E. mackieana*). According to Ladiges & Humphries (1986), *E. erosa* has cotyledons 10–13 mm wide, compared to 5–7 mm wide for *E. mackieana*.

E. mackieana has long been spelt *E. mckieana*, but Recommendation 60C.4 of the IUCN (Greuter *et al.* 2000), stated that “The scottish patronymic prefix Mac, Mc or M’, meaning “son of”, should be spelled ‘mac’ and united with the rest of the name”.

Conservation status: There are no appreciable threats to this species. Under the IUCN criteria (IUCN 2001), *E. erosa* classifies as ‘Least

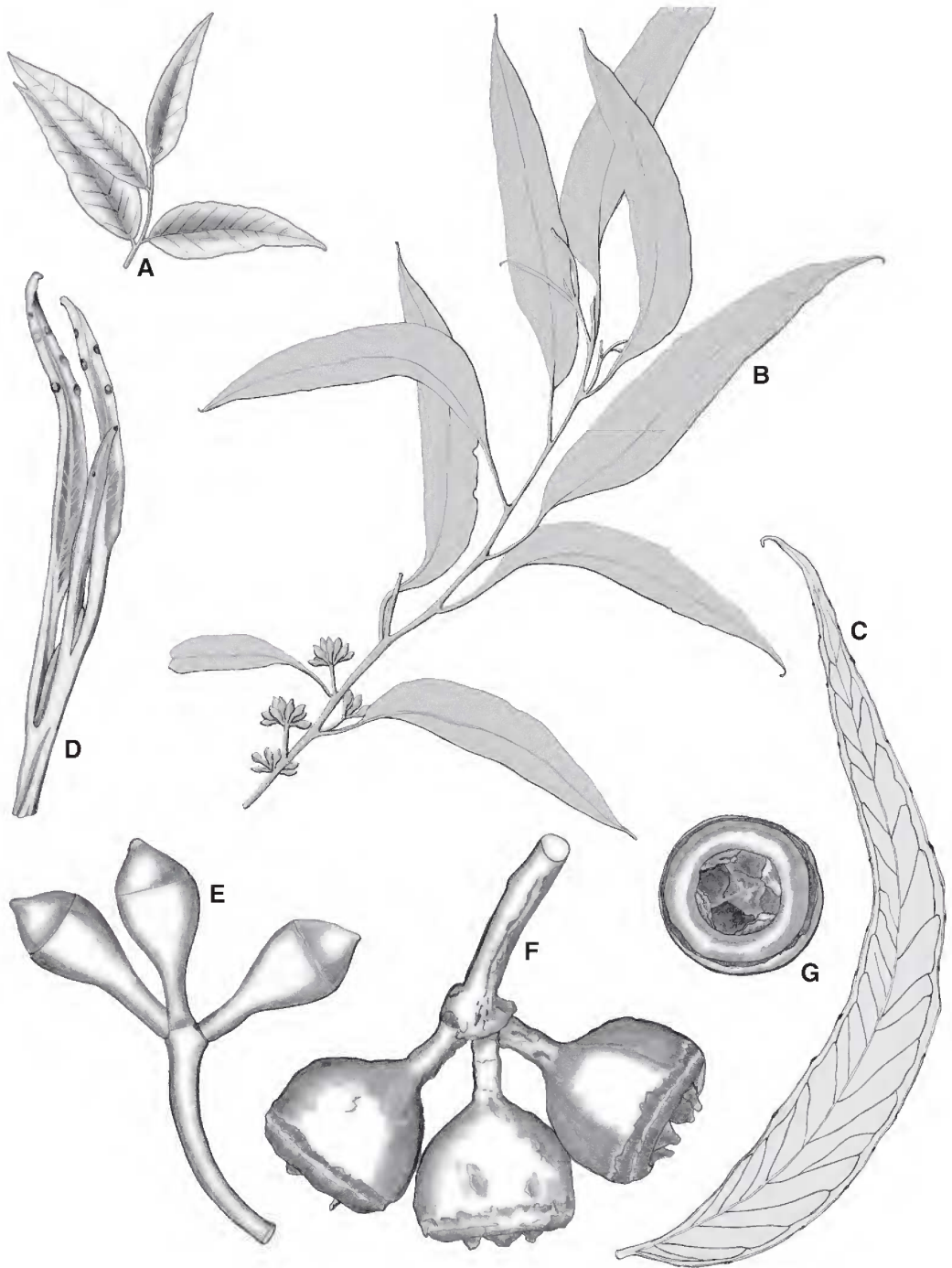


Fig. 1. *Eucalyptus erosa*. A. juvenile leaves $\times 0.5$. B. branchlet bearing axillary bud clusters $\times 0.5$. C. adult leaf showing the marginal glands $\times 1$. D. newly emerging adult leaves with pustular marginal glands $\times 4$. E. umbellaster of mature buds (some buds have been shed) $\times 3$. F. umbellaster of mature fruits (some fruits have been shed) $\times 3$. G. mature fruit, viewed from above $\times 3$. A,C from *Blaxell 1883 & Johnson*; B,D from *Crisp 3068*; E from *Neldner & Thomas 749*; F,G from *Martensz 1149 & Johnston* (all BRI). Del. W. Smith.

Concern'. Hence no conservation status is recommended.

Etymology: The specific epithet is derived from the Latin *erosus*, referring to the erose (corroded, irregularly toothed, or apparently gnawed) margins of the adult leaves in this species.

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